Amendments to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for controlling the wavelength of a plurality of channels launched by optical transmission means and received by at least one wavelength selective element in an optical WDM link, the method including:

noting a starting value of a wavelength influencing parameter of said wavelength selective element,

for each channel, determining a channel centre value (MCDn) of said parameter of said wavelength selective element at which the output power of said channel is a maximum,

calculating a mean value (MD) corresponding to the average of said channel centre values (MCDn) for all channels, and

utilising said ~~channel centre values (MCDn)~~ mean value (MD) to determine a deviation between said launched wavelengths and wavelengths selected by said wavelength selective element indicative of wavelength drift in said optical link, and to correct said wavelength deviation at at least one of said wavelength selective element and said optical transmission means.

2. (Original) Method as claimed in claim 1, wherein determining said channel centre values includes

for each channel, determining a first parameter value (DHn) of said wavelength selective element relative to said starting parameter value at which the power of said channel output from said wavelength selective element falls below a predetermined level,

for each channel, determining a second parameter value (DLn) of said wavelength selective optical element relative to said starting value at which the power of said channel output from said wavelength selective optical element falls below said predetermined level, and

for each channel, determining a channel mean value (MCDn) corresponding to the average of said first and second parameter values.

3. (Original) A method as claimed in claim 2, wherein said first and second parameter values are difference values (DHn, DLn) relative to said starting value.

4-8. (Cancelled).

9. (Currently Amended) A method as claimed in claim 26 ~~any one of claims 6 to 8~~, further including the steps of:

prior to operation of said optical link, setting the wavelengths of ~~the~~ optical transmission sources coupled to said optical transmission means to predetermined nominal wavelengths,

setting said wavelength selective element to a nominal parameter value at which the output power of all said channels is optimised,

for each channel, determining a first value of said parameter of said wavelength selective element relative to said nominal value at which the power of said channel output from said wavelength selective element falls below a predetermined level,

for each channel, determining a second parameter value of said wavelength selective optical element relative to said nominal value at which the power of said channel output from said wavelength selective optical element falls below said predetermined level,

for each channel determining the mean of said first and second parameter values, and

for each channel, utilising said mean as said predetermined channel variance value (IVn).

10. (Currently Amended) A method as claimed in ~~one of claims 6 to 9~~ claim 26, including utilising said difference values (Dn) to adjust a wavelength influencing parameter of said wavelength selective element.

11. (Currently Amended) A method as claimed in ~~one of claims 6 to 9~~ claim 26, including for each channel utilising said difference value (Dn) to correct the wavelength launched by said optical transmission means.

12. (Currently Amended) A method as claimed in ~~any one of claims 3 to 11~~ claim 3, wherein said mean value (MD) is a weighted average of said first and second parameter values for all channels.

13. (Currently Amended) A method as claimed in ~~any one of claims 1 to 12~~ claim 1, characterised in that said parameter is the temperature of said wavelength selective element.

14. (Currently Amended) A method as claimed in ~~any one of claims 1 to 12~~ claim 1, characterised in that said parameter is an electrical injection current into said wavelength selective element.

15. (Currently Amended) A method as claimed in ~~any one of claims 1 to 12~~ claim 1, characterised in that said parameter is a mechanical movement of an optical element associated with said wavelength selective element.

16. (Currently Amended) A wavelength control arrangement for controlling the wavelengths of channels utilised in an optical WDM link including

a wavelength selective element (50) for receiving a combined optical signal including a plurality of optical channels launched by optical transmission means (10, 110) and adapted to separate at least two optical channels according to wavelength,

monitoring means (60, 70) for detecting optical signals on said channels output from said wavelength selective element (50), and

means for regulating a wavelength influencing parameter (90) associated with said wavelength selective element (50) for regulating ~~said parameter of said wavelength selective element~~ the wavelengths selected by said wavelength selective element, characterised by

control means (100) arranged to communicate with said ~~regulator~~ means for regulating (90) and said monitoring means (70) and adapted to determine a mean parameter value ~~of~~ for said wavelength selective element (50) said mean parameter value being the mean of parameter values determined for each channel relative to a starting parameter value of said wavelength selective element (50) at which the output power of said channels is a maximum,

to determine a wavelength drift on the basis of said mean parameter value, and

to generate at least one control signal for rectifying wavelength as a function of said determined wavelength drift ~~for each channel relative to a starting parameter value of said wavelength selective element (50) at which the output power of said channel is a maximum, to determine a wavelength drift on the basis of said parameter values and to generate at least one control signal for rectifying wavelength~~.

17. (Original) An arrangement as claimed in claim 16, characterised in that said control means (100) are adapted to determine two parameter values associated with said wavelength selective element (50) for each channel at which the output power of said channel falls below a predetermined level.

18. (Currently Amended) An arrangement as claimed in claim 16 ~~or 17~~, characterised in that said control means (100) comprise processing means for determining the magnitude and source of said wavelength drift.

19. (Currently Amended) An arrangement as claimed in ~~any one of claims 16 to 18~~ claim 16, characterised in that said wavelength selective element (50) is an arrayed waveguide grating (AWG).

20. (Currently Amended) An arrangement as claimed in ~~any one of claims 16 to 19~~ claim 16, characterised in that said control means (100) are adapted to communicate with said optical transmission means (10) to alter the launched wavelength using said at least one control signal.

21. (Currently Amended) An arrangement as claimed in ~~any one of claims 16 to 20~~ claim 16, characterised in that a regulator (130) associated with a laser (110) in said transmission means (10) is adapted to vary a wavelength influencing parameter of said laser (110) in response to at least one control signal from said control means (100).

22. (Currently Amended) An arrangement as claimed ~~in any one of claims 16 to 21~~ claim 16, characterised in that said regulating means (90) are adapted to vary said parameter of said wavelength selective element (50) in response to at least one control signal from said control means (100).

23. (Currently Amended) An arrangement as claimed in ~~any one of claims 16 to 22~~ claim 16, characterised in that said control means (10) are adapted to communicate with at least one of said transmission means (10) and said regulating means (90) and monitoring means (70) via a control channel 150.

24. (Currently Amended) An optical WDM link comprising a wavelength control arrangement as claimed in ~~any one of claims 15 to 22~~ claim 16.

25. (New) The method recited in claim 1, further comprising the steps of:

utilising said channel centre values to determine the proportion of channels which manifest a drift in wavelength relative to the total number of channels; and

utilising said mean value (MD) to adjust a wavelength influencing parameter of said wavelength selective element when said proportion exceeds a predetermined amount.

26. (New) The method recited in claim 25, further comprising the step of comparing, for each of at least a predetermined number of channels, said channel centre value (MCDn) with a predetermined channel variance value (Ivn) to obtain a difference value (Dn) indicative of a wavelength shift in said channel.

27. (New) The method recited in claim 26, further comprising the step of determining the proportion of said channels which demonstrate a wavelength drift by summing the difference values (Dn) that deviate from zero for at least a predetermined number of channels.

28. (New) The method recited in claim 27, further comprising the step of setting said predetermined channel variance value (IVn) as a difference between a) a value of said parameter of said wavelength selective element at which the output power of said channel having a predetermined nominal channel wavelength is optimised and b) a value of said parameter of said wavelength selective element at which the average output power of all channels having predetermined nominal wavelengths is optimised.

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